

TOSHIBA

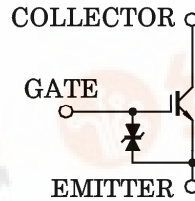
GT8G121

TOSHIBA INSULATED GATE BIPOLAR TRANSISTOR SILICON N CHANNEL MOS TYPE

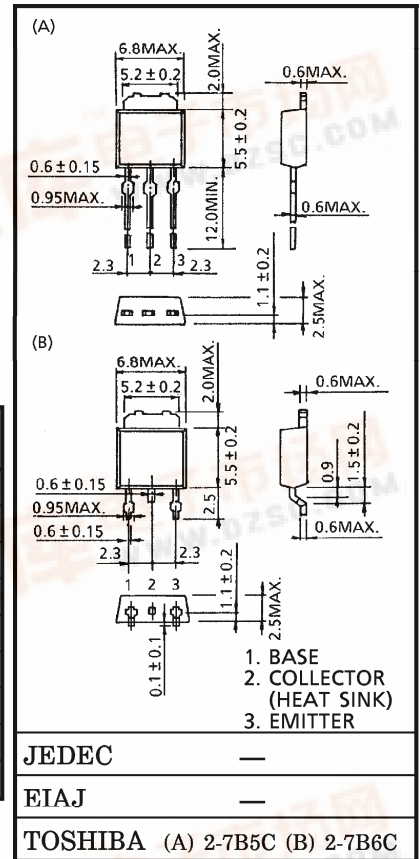
GT8G121

STROBE FLASH APPLICATIONS

- 4th Generation (Trench Gate Structure)
- Enhancement-Mode
- Low Saturation Voltage
: $V_{CE(sat)} = 7\text{ V (Max.) (@}I_C = 150\text{ A)}$
- 4 V Gate Drive



Unit in mm



MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

CHARACTERISTIC	SYMBOL	RATING	UNIT	
Collector-Emitter Voltage	V_{CES}	400	V	
Gate-Emitter Voltage	DC	± 6	V	
	Pulse	± 8	V	
Collector Current	DC	8	A	
	1 ms	I_{CP}	150	A
Collector Power Dissipation	$T_a = 25^\circ\text{C}$	P_C	1.1	W
	$T_c = 25^\circ\text{C}$	P_C	20	W
Junction Temperature	T_j	150	$^\circ\text{C}$	
Storage Temperature Range	T_{stg}	-55~150	$^\circ\text{C}$	

ELECTRICAL CHARACTERISTICS ($T_a = 25^\circ\text{C}$)

Weight : 0.36 g

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT	
Gate Leakage Current	I_{GES}	$V_{GE} = 6\text{ V}, V_{CE} = 0$	—	—	10	μA	
Collector Cut-off Current	I_{CES}	$V_{CE} = 400\text{ V}, V_{GE} = 0$	—	—	10	μA	
Gate-Emitter Cut-off Voltage	$V_{GE(OFF)}$	$I_C = 1\text{ mA}, V_{CE} = 5\text{ V}$	0.8	—	1.5	V	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	$I_C = 150\text{ A}, V_{GE} = 4\text{ V (Pulsed)}$	—	3.5	7	V	
Input Capacitance	C_{ies}	$V_{CE} = 10\text{ V}, V_{GE} = 0, f = 1\text{ MHz}$	—	3800	—	pF	
Switching Time	Rise Time		—	2.3	—	μs	
	Turn-on Time		t_{on}	—	2.5		—
	Fall Time		t_f	—	1.7		—
	Turn-off Time		t_{off}	—	2.1		—
Thermal Resistance	$R_{th(j-c)}$	—	—	—	6.25	$^\circ\text{C/W}$	

These devices are MOS type. Users should follow proper ESD Handling Procedures.
Operating condition of turn-off dv/dt should be lower than $400\text{ V}/\mu\text{s}$.

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